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The relationship between the big-five model of personality, self-regulated learning strategies and academic performance of Islamic Azad University students

Narges Babakhani*

a Department of psychology, Islamic Azad University Rudehen Branch, Tehran, Iran

Abstract

The current research is a descriptive study of kind correlation method with purpose investigates relation between personality traits, Self-regulated learning strategies with academic achievement among the students. Subjects were Selected through random multistage cluster sampling, 157 (71 girls and 86 boys) of students from Islamic Azad Universities in eight and twelve areas. The NEO-Five factor inventory (NEO-FFI), (Costa & Mc Crae, 1985) and motivated strategies for learning questionnaires (MSLQ), (Pintrich & De Groot, 1991), had been applied for collecting data. All questionnaires reliability with Cronbach's coefficient alphas was verified. Partial and Stepwise multiple regression had been applied for study of the relations and predictive quantity of aforementioned variables and mean while for comparing males and females in research observed variables ; analysis of variance (ANOVA) had been used. Analysis of research results showed that personality traits (except neuroticism) are in direct, meaningful relation with academic achievement. Results of using multiple regressions showed that personality traits and self-regulated learning strategies can predict 38 percent changes in academic achievement. Self-regulated learning strategies variable is more powerful than personality traits in predict academic achievement (35 against 13 percent). Also Results this research showed there is no there is no significant difference between girls and boys of personality traits and Self-regulated learning strategies ($P>0.05$). But different in academic achievement component was significant and boys scored higher ($p<0.001$).

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Keywords: *personality traits, Self-regulated learning strategies, academic achievement*

1. Introduction

The effectiveness and quality of every provided educational system is evaluated and measured by it's advancement in the societies in today's world . therefor, the recognition of both known and also unknown symptoms and factors of the advancement is anticipated. understanding the "mediation hypothesis ", we learn that there is a type of learning process called self-regulated learning (Zimmerman & Shunk, 2004). In research non-cognitive predictors of academic performance, including variables related to personality dispositions. personality was described by a five-factor model that factors are extraversion, neuroticism, openness to experience, agreeableness and conscientiousness (Costa and McCrae, 1992).

* Corresponding author: Narges Babakhani, Tel: 09819127553310; Fax :09812144038292 ;
Email :babakhani@riau.ac.ir ; Email : narges.babakhani@yahoo.com

Zimmerman (2000), defined self-regulation of learning as the degree which learners are motivationally, meta-cognitively, and behaviourally active in their learning process and in accomplishing their goals.

2. Method

2.1. Participation

Target population included male and female students in Islamic Azad university Rudehen branch, studying in the University of Academic Year 2011-2012. 200 students were selected in the Research through multi-stage cluster sampling method (100 boys and 100 girls).

2.2 Measures and procedures

A set questionnaire was prepared in a single paper and explained the main purpose of the study, content of the questionnaires, and how to conduct to students. Participants student completed together two questionnaires of Motivated Strategies for Learning Questionnaire (MSLQ) and NEO Personality Inventory revised in universities laboratory . Motivated Strategies for Learning Questionnaire (MSLQ) was developed by Pintrich e t. al (1991). It is an 81-item questionnaire and has been nor med by Jabbari (1992) in Iran. In this study Cronbach's coefficient alphas (0.92) showing good internal consistency of the scales. Student's personality was assessed by NEO Scale (Costa & McCrae, 1985). This well-established questionnaire is a 60-item measure of the Big Five personality factors: Neuroticism, Extraversion, and Openness to Experience, Agreeableness, and Conscientiousness. Items involve questions are answered on a five-point Likert scale. Responses rage from "strongly disagree" to "strongly agree." Cronbach's alphas for all factors (0.87) are an acceptable level that, showing good internal consistency. Also academic achievement for participant was recorded throughout all academic terms in students' files. Data was gathered in such a way which prevented any disorder, by a carefully designed time schedule. Data was analyzed using SPSS 18.

3. Results

To investigate descriptive information, mean, standard deviation, minimum and maximum of the observed variables are reported in Table 1.

Table 1. Descriptive statistics and ANOVA test between girls and boys of the observed variables

Variables	Sex	N	Minimum	Maximum	Mean	SD	F	Sig
Neuroticism	Girls	71	7	45	24.39	6.67	1.04	0.18
	Boys	86	7	37	23.05	5.91		
Extraversion	Girls	71	13	48	26.74	7.40	1.25	0.12
	Boys	86	14	38	28.29	4.87		
Openness	Girls	71	13	44	25.28	6.49	2.003	0.48
	Boys	86	16	37	26.43	4.17		
Agreeableness	Girls	71	10	48	26.18	7.22	0.31	0.18
	Boys	86	11	43	25.51	4.59		
Conscientiousness	Girls	71	10	48	26.39	7.03	16.39	0.14
	Boys	86	14	37	28.20	4.96		
Self- regulation	Girls	71	84	201	139.70	20.89	18.68	0.18
	Boys	86	89	194	144.65	24.51		
academic achieve	Girls	71	9	20	14.42	2.29	39.44	0.02
	Boys	86	9	20	15.29	2.41		

Also In order to investigate gender difference of observe variables, ANOVA statistical test was used (Table 1). Results showed, there was no significant different between girls and boys in all factors of personality and using self-regulative strategies ($P > 0.05$). But the two genders are significantly different in academic achievement ($P < 0.05$) and boys scored higher than girls on this scale (15.29 to 14.42).

In order to initially examine the interrelatedness of the big-five personality dimensions, strategies of self-regulated learning and academic achievement zero order correlation coefficients were computed first.

Table 2. correlation matrix

Variables	1	2	3	4	5	6	7
1. Neuroticism	1						
2. Extraversion	**0.20	1					
3. Openness	**0.40	**0.59	1				
4. Agreeableness	**0.50	**0.57	**0.50	1			
5. Conscientiousness	**0.28	**0.68	**0.60	**0.61	1		
6. Self- regulation	**0.20	**0.28	0.14	0.13	**0.30	1	
7. academic achieve	-0.09	**0.31	**0.21	**0.21	**0.34	**0.58	1

As can be seen in table2, canonical correlation was performed between the set the personality dimensions and self-regulated learning strategies with academic achievement. The lowest coefficient related to relation between neuroticism and academic achievement ($r = -0.09$, $p > 0.05$) and the highest coefficient related to relation between extraversion and conscientiousness ($r = -0.68$, $p < 0.01$). Also academic achievement have relation maximum with using self-regulated learning strategies ($r = -0.58$, $p < 0.01$).

Assumption of normality and linearity, and absence of outliers were examined through SPSS descriptive and regression programs. The data were screened for univariate outliers by examining Z score. There aren't cases with absolute greater than 3.26 (Tabachnick & Fidell, 2001). The presence out multivariate outliers was assessed by the use of Mahalanobis distance. By using to results this test 4 cases were identified as multivariate outliers and deleted ($P < 0.01$).

Table 3. Summary of contemporary regression analysis for variables predicting academic achievement

Model	R	R ²	A R ²	SE	F	Sig
Personality and Self-regulated learning	0.62	0.39	0.38	1.91	79.81	0.000

The inspection of the results in table 3, indicated that the first multiple correlation between independent variables with academic achievement dependent variable is significant ($R = 0.62$, $P < 0.001$). The second approximately 39 percents of academic achievement variance explained through personality factors and Self-regulated learning variables. This amount is an acceptable level (Kuhl, 1988).

Table 4. coefficient and significant coefficient for variables predicting academic achievement

Predicted variables	B	SE	β	t	Sig
Constant	4.07	1.23	-	3.28	0.001
Self-regulated learning	0.05	0.007	0.54	7.87	0.000
Neuroticism	-0.23	0.143	-0.145	1.45	0.20
Extraversion	0.064	0.26	0.164	2.449	0.015
Openness	-0.06	0.03	-0.13	2.05	0.043
Agreeableness	-0.05	0.26	-0.135	2.07	0.04
Conscientiousness	0.07	0.027	0.18	2.75	0.007

Table 4 shows that four variable effects of personality, except to neuroticism, on academic achievement are significant. Extraversion ($t = 2.50$, $p < 0.05$), openness ($t = 2.75$, $p < 0.05$), agreeableness ($t = 2.07$, $p < 0.05$) and conscientiousness ($t = 2.75$, $p < 0.01$). Also self- regulated learning have significant affect on academic achievement ($t = 7.87$, $p < 0.001$). Therefore compose liner equation or academic achievement predicting model based on predicted standard variables in below linear.

$$Y = \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5$$

Academic = 0.54 self-regulation + 0.18 conscientiousness -0.13 openness -0.14 agreeableness + 0.16 extraversion achieve.

Based on these results, the main hypothesis of this study is confirmed; that is academic achievement predicting through personality factors and self-regulated learning and about 0.38 of students academic achievement variance is accounted with variables ($p < 0.01$).

4. Conclusions

The first aim of this study was to explore the relationship among personality factors, self-regulated learning and academic achievement of students. The second aim of this study was to predict academic achievement, with the personality big- five factors and self-regulated learning dimensions as predictors.

The results this study shows that, four factors of personality (extraversion, openness, agreeableness and conscientiousness), and using self-regulated learning strategies predict academic achievement.

Self-regulated learning is predictive of personality characteristics (34% to 10%). This result has confirmed mediation theory. Self-regulating learners have more academic achievement than another learners. Because this active students with creating suitable and right environment, learning time and place management, helpness from similar age groups and choice challenging tasks and intrinsic motivation facilitate learning process and improve academic achievement students in universities. Also these students with showing a high level of self-efficacy and competence, stability toward their goals and enjoy their success. These findings are consistent with other studies (Furnham et al, 2003; Lounsbury, 2003; Premuzic & Furnham, 2003; Duff et al, 2004; Dunsmore, 2005; Chamorro et al, 2003, 2005; Atashrouz et al, 2008 ; Di Fabio et al, 2009).

Also the results show that, all factors of personality predict t self-regulated learning and academic performance. These results have confirmed Personality traits theory that is expressed, Personality characteristics, are determined and causes treated to behaviors.

Extroversion Characteristics has positive relation with self-regulated learning strategies. Extroverted learners will be connected with their community. They are always sociable, Determined, brave, energetic and active portion of their society. These Characteristics of extroversion learners Makes better connections with among learners and professors in the university. They Participate in group projects and enjoy of their performance. On the other Social relationships between students' is making a sense of belonging to the university. This sense Causes acceptance and commitment to the norms and standards of the university environment (Furnham et al, 2003; Lounsbury, 2003; Dunsmore, 2005; Atashrouz et al, 2008; Di Fabio et al, 2009).

Agreeableness Characteristics has positive relation with self-regulated learning strategies and academic performance. Agreeable students in the face of life events are compromising and flexible. They are popular among others, (Costa & McCray, 1992) and have less conflict with their teachers and classmates in their relationships. There for the university environment, especially class is contributes to competitiveness for them. So it is to be expected for academic success. These findings are consistent with other studies (Chamorro et al, 2003; Premuzic & Furnham, 2003; Lounsbury, 2003; Duckworth et al, 2005; Khormaii et al, 2006; Laidra et al, 2007; Atashrouz et al, 2008; Komaraju et al, 2009).

In the positive relationship between academic achievement and the flexibility, can be said: high curiosity of student about the internal and external world is causes their progress. This finding is consistent with other studies (Conard, 2006; Farsides & Woodfield, 2003; Entwistle & Tait, 1996; Entwistle, 1988; Day et al, 2003; Zweig & Webster, 2004).

Flexible Students like ask questions and ready to accept new ideas. They are gaining new experiences constantly . Since flexibility Characteristics has positive relationship with divergent thinking which a factor in creativity is, it causes which, Students need to understand original and new positions and their orientations in learning is mastery. These factors affect academic achievement.

Conscientiousness Characteristics has positive relation with self-regulated learning strategies and academic performance. This finding is consistent with other studies (Zweig & Webster, 2004; Martin et al, 2006; Bratko et al, 2006; Atashrouz et al, 2008 ; Hoseini& Latifian, 2009; Komarraju et al, 2009).

Conscientious students have sense of responsibility for their own learning and are committed to participate in the learning experience actively. They get a lot of information about their future job. They are resistance to achieve their goals. Also Conscientious students are going to gain knowledge about self-regulated learning strategies so that they to manage their knowledge process and to use of appropriate strategies in different conditions. They are achievement-oriented and chosen master goals. The factors cause that, them have better performances.

In the research neuroticism Characteristics has not signified relation with academic performance. But high neuroticism was related to lower tendencies for the use of self-regulated learning strategies of students. In explaining these findings, we can say: neurotic Students are afraid of failure because they are prone to pessimism and anxiety. So, they to avoid challenging situations in learning and have surface approach to learning. They have no ability to coping with crisis and stressful situations. They can not to manage their amount of effort, time and study location. There for they act weak in using self-regulatory learning strategies. Theses finding are consistent with other studies (Entwistle & Tait 2004, Matthews& Zeidner, 2004).

To investigate gender differences in the observed variables, shows there aren't significantly differences between girls and boys in all self-regulation learning components and personality characteristics (big five factors). But girls and boys are significantly different in academic achievement ($P < 0.001$). Boys outperformed girls in academic achievement.

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